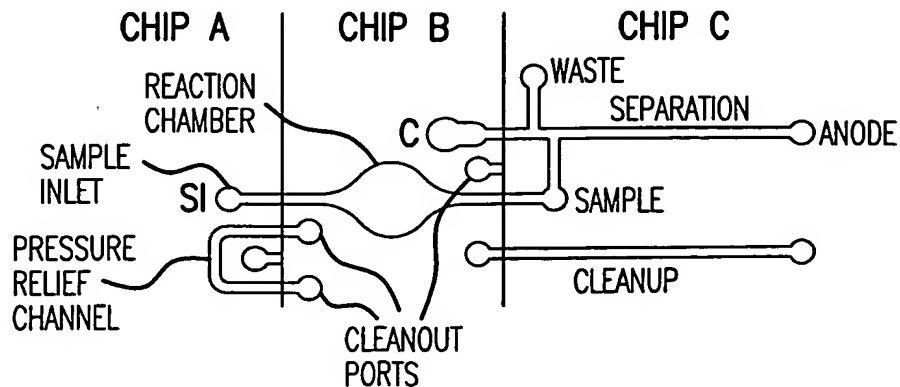
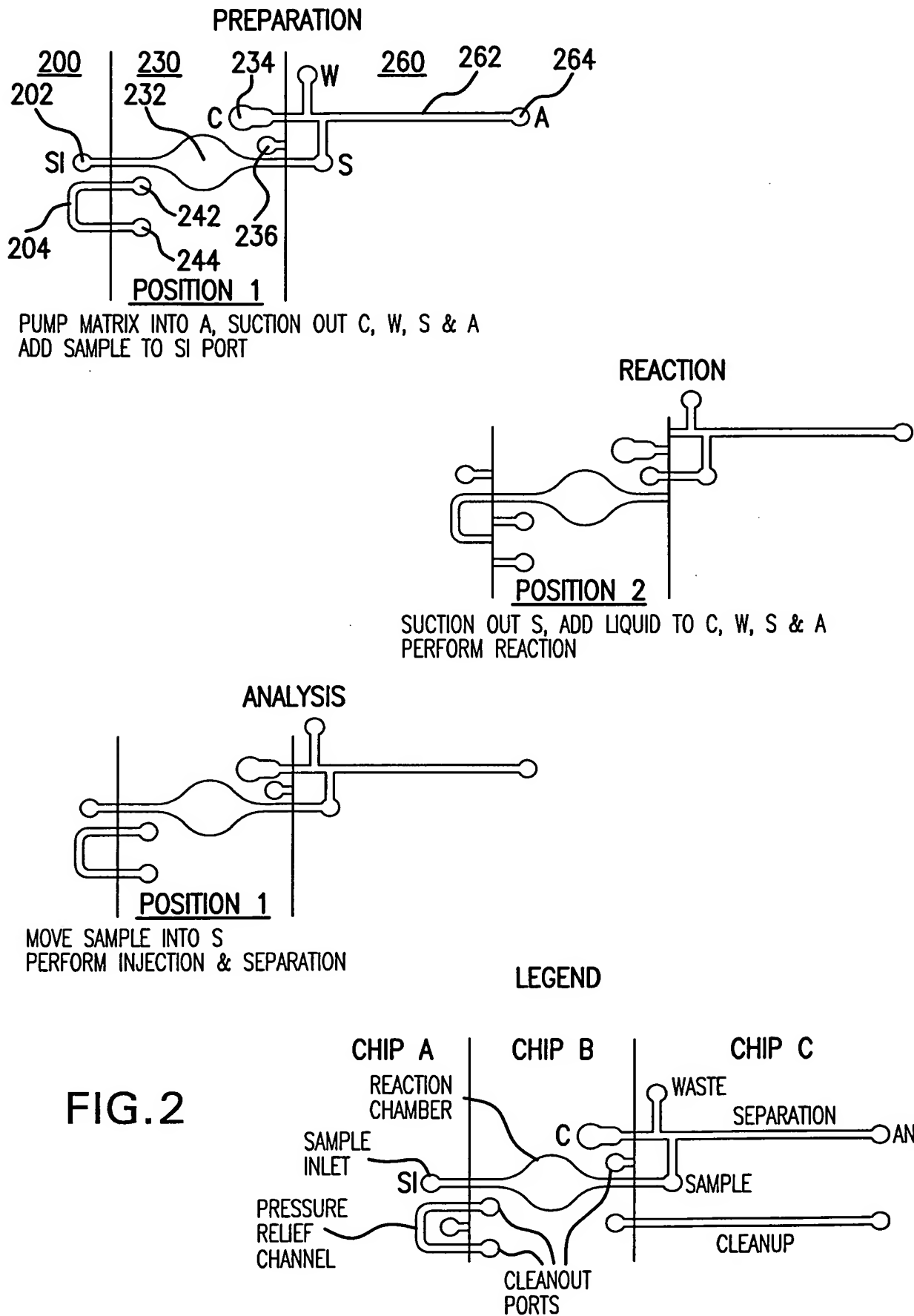


LEGEND

FIG. 1





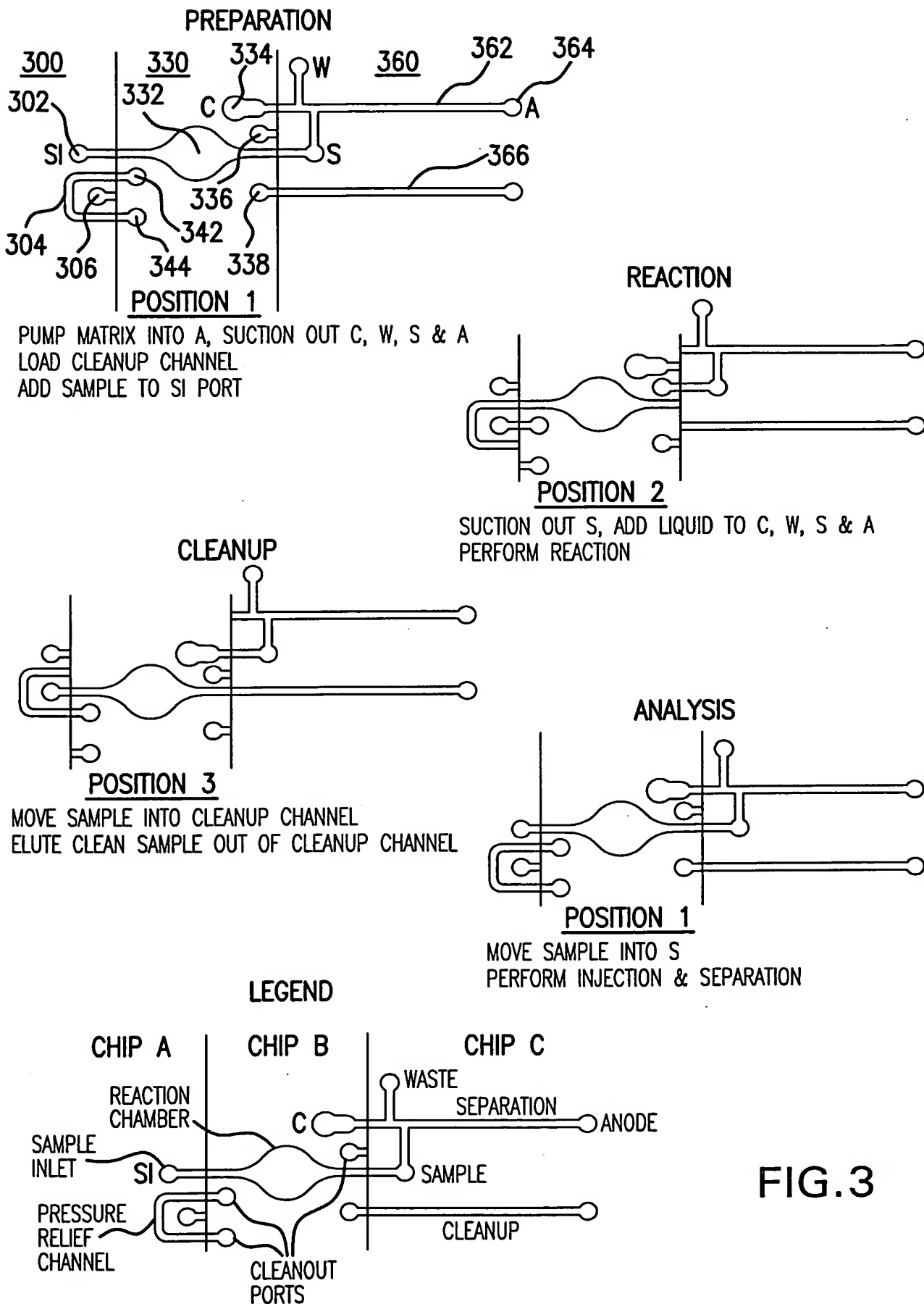
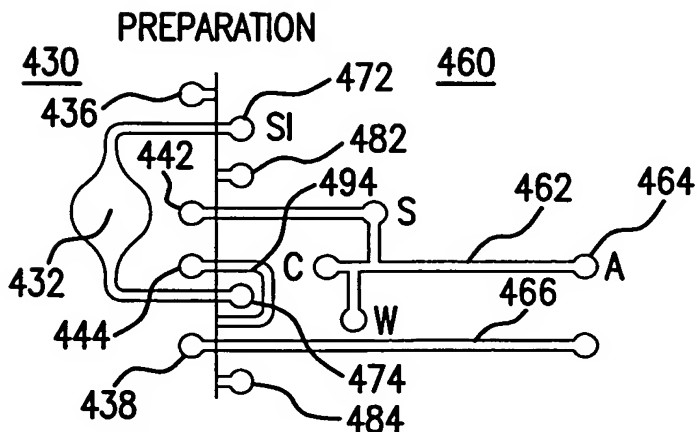
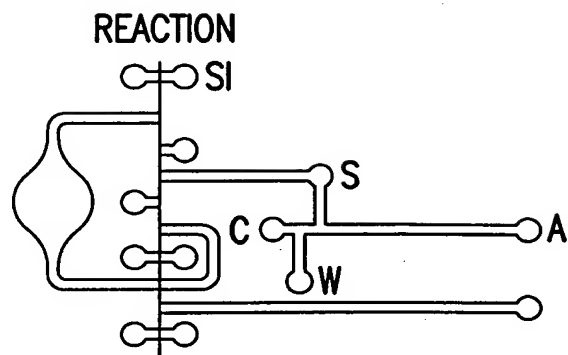


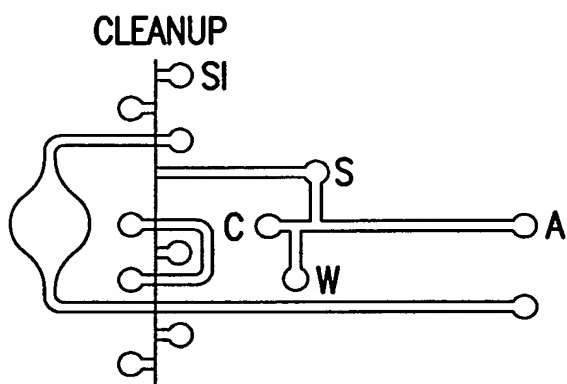
FIG.3



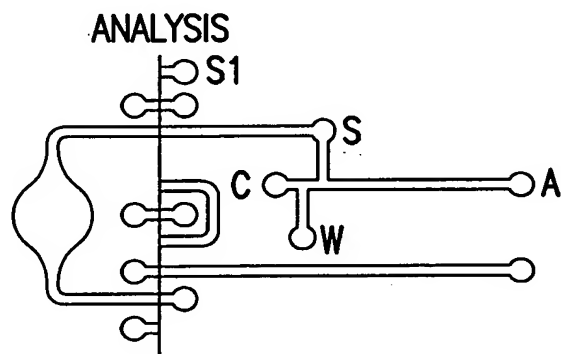
POSITION 1
 PUMP MATRIX INTO A, SUCTION OUT C, W, S & A
 ADD CLEANUP MEDIA
 ADD SAMPLE TO SI PORT



POSITION 2
 ADD LIQUID TO C, W, S & A
 PERFORM REACTION
 CLEAN SI CHANNEL



POSITION 3
 MOVE SAMPLE INTO CLEANUP CHANNEL
 ELUTE CLEAN SAMPLE BACK INTO REACTION CHAMBER
 CLEAN PRESSURE RELIEF CHANNEL



POSITION 4
 INJECT SAMPLE, PERFORM SEPARATION
 CLEAN THE REST OF THE CHIP

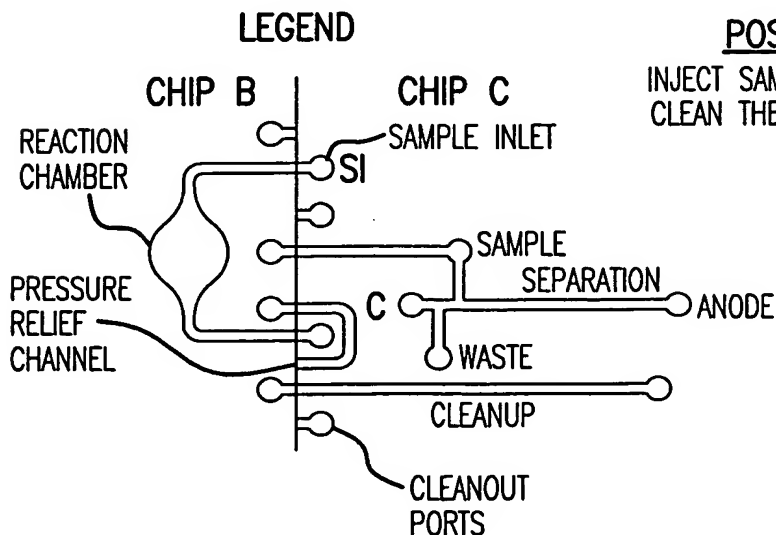
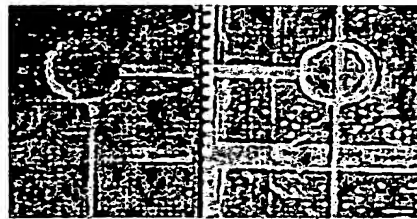


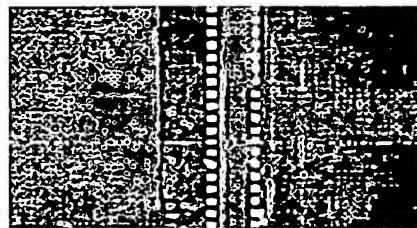
FIG.4



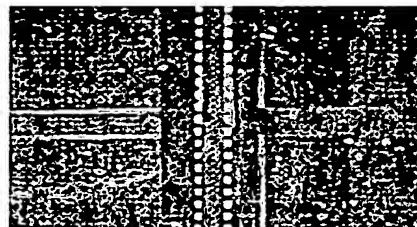
Position 1A



Position 1B



Position 1C

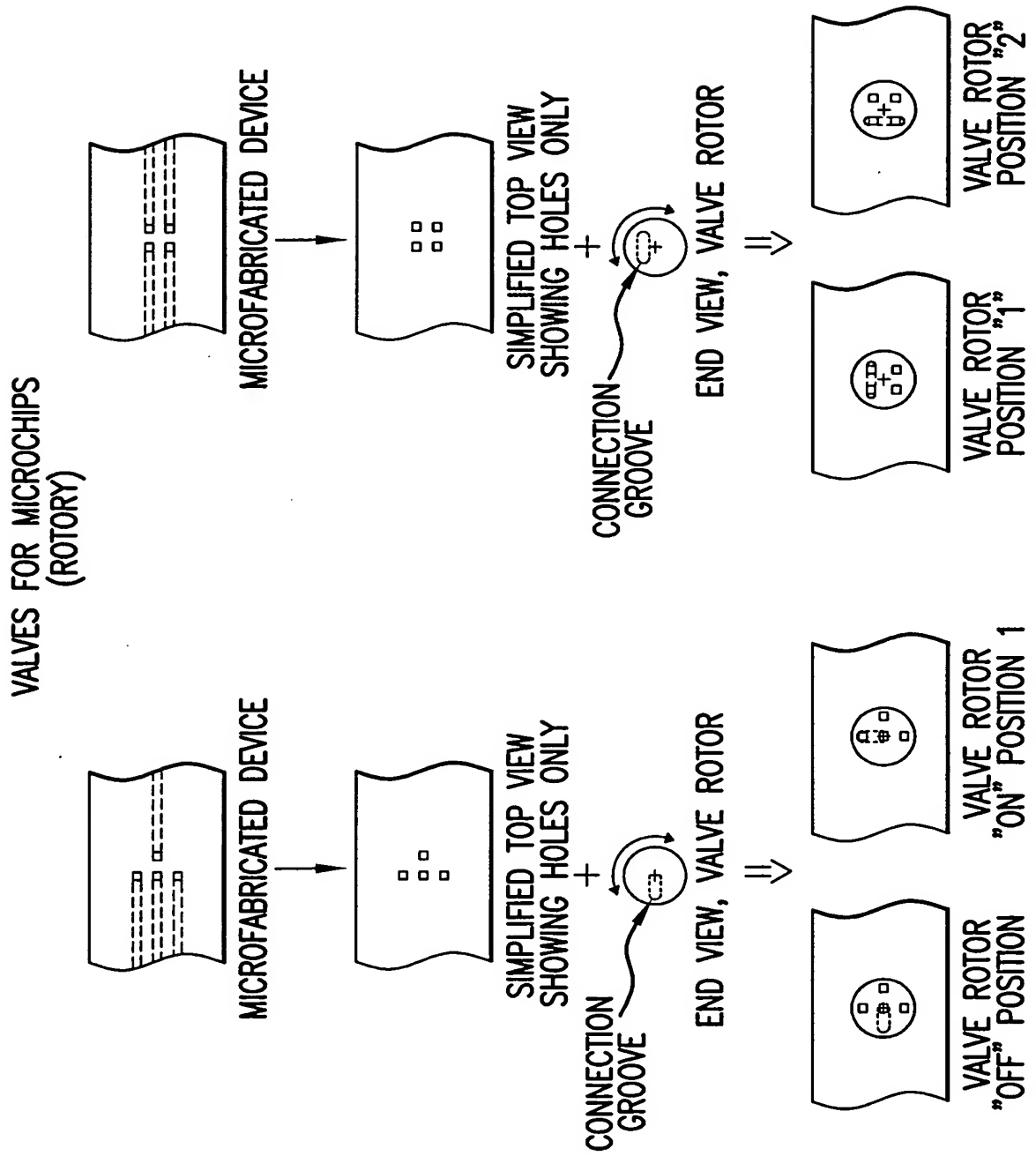


Position 1D



Position 2

FIG.5



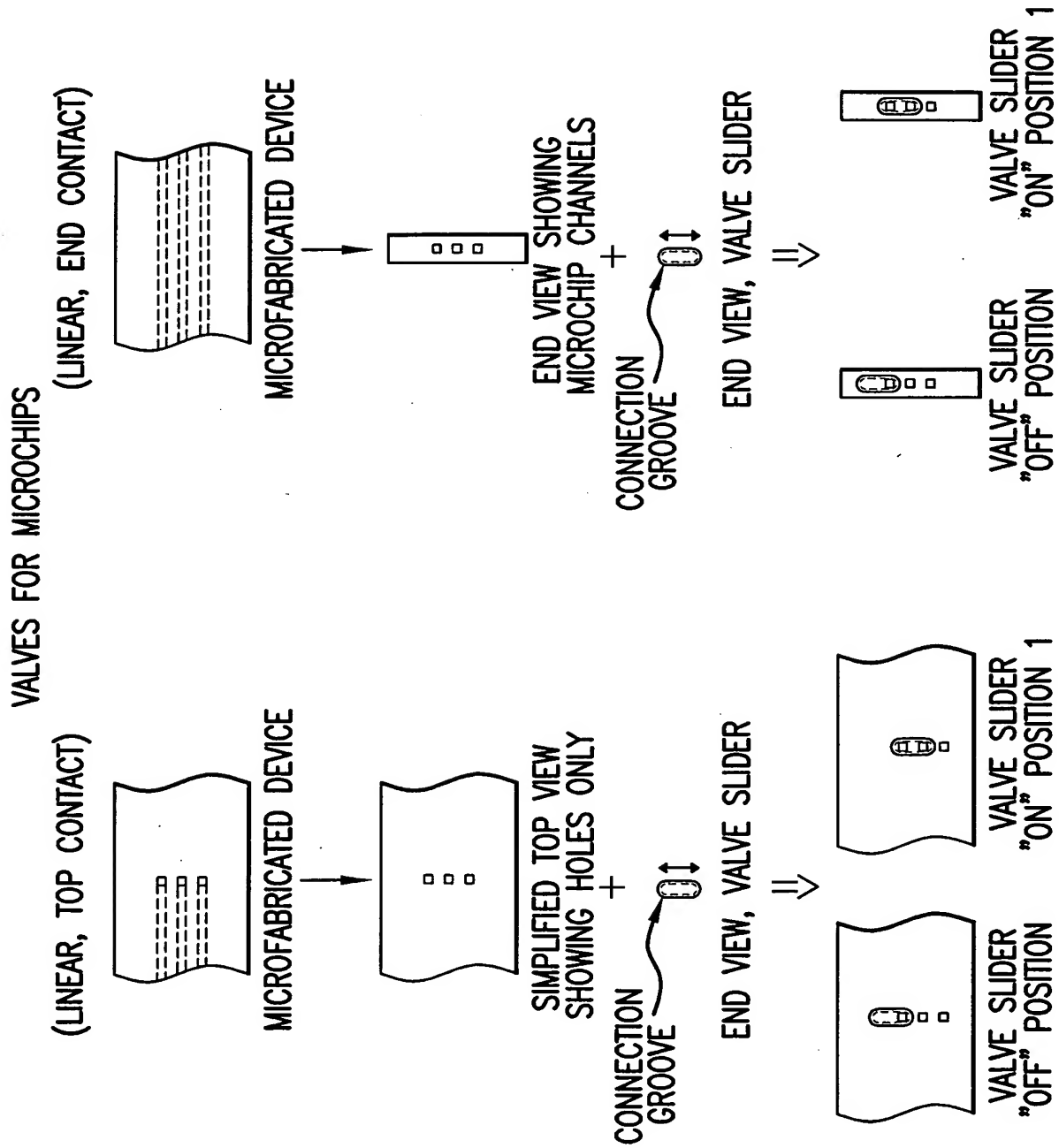


FIG.6C

FIG.6D

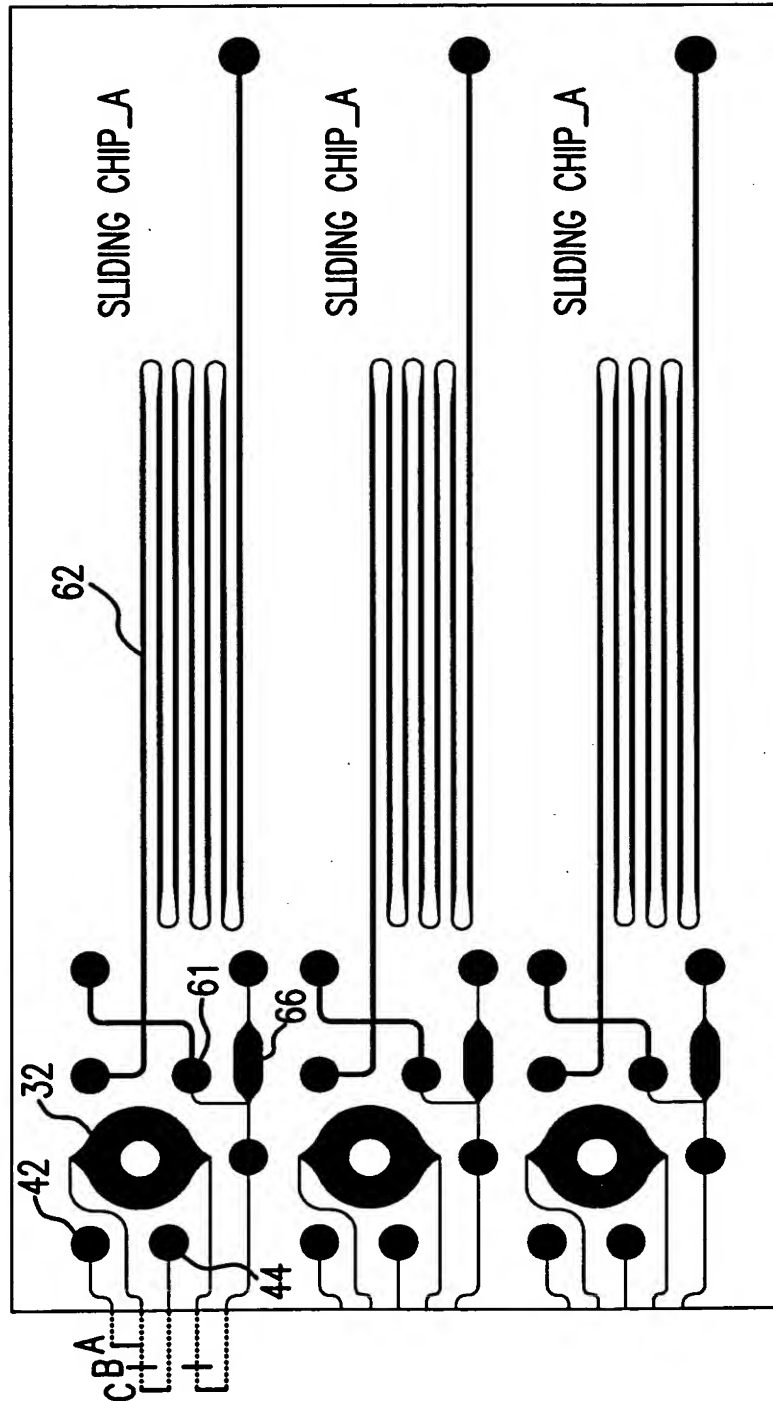


FIG. 7A

FABRICATION VERY SMALL, HIGH ASPECT RATIO HOLES IN GLASS

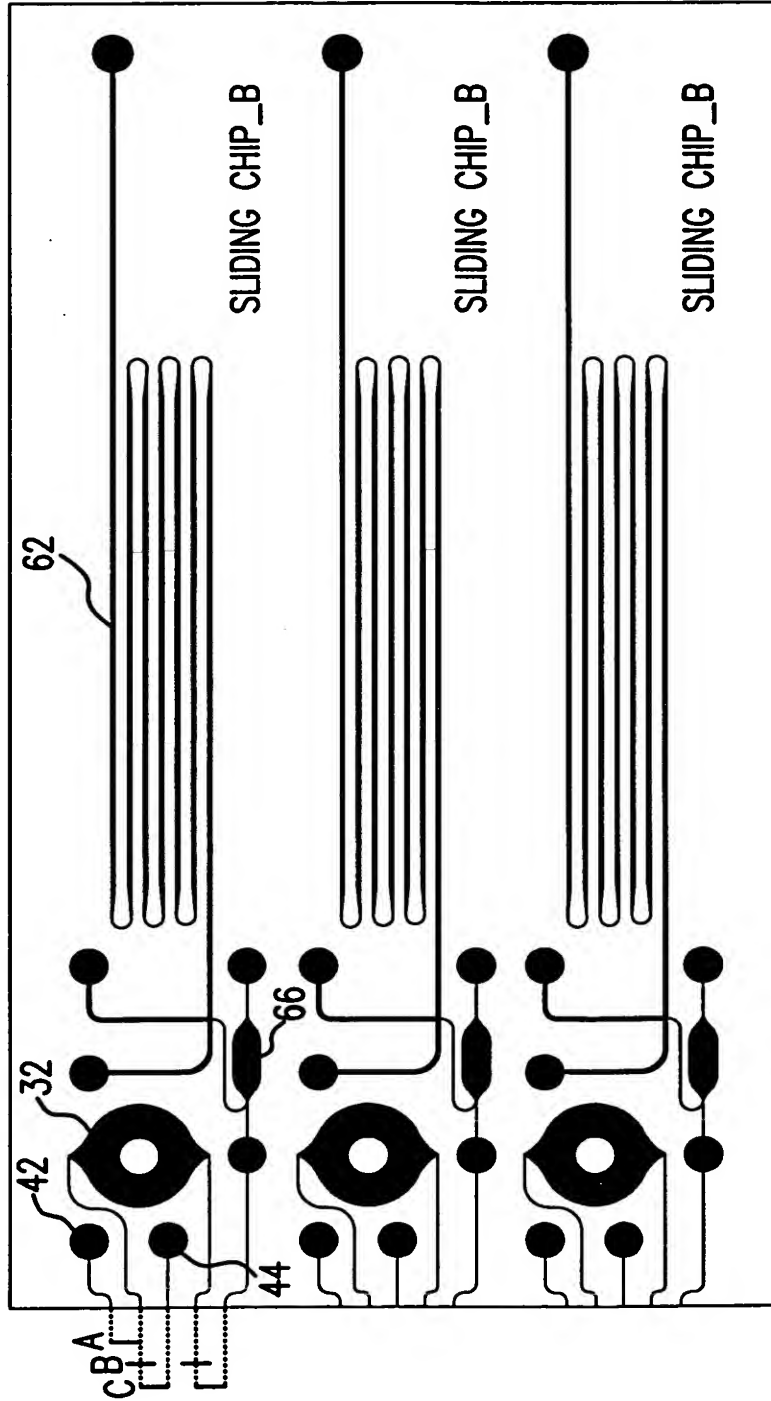


FIG. 7B

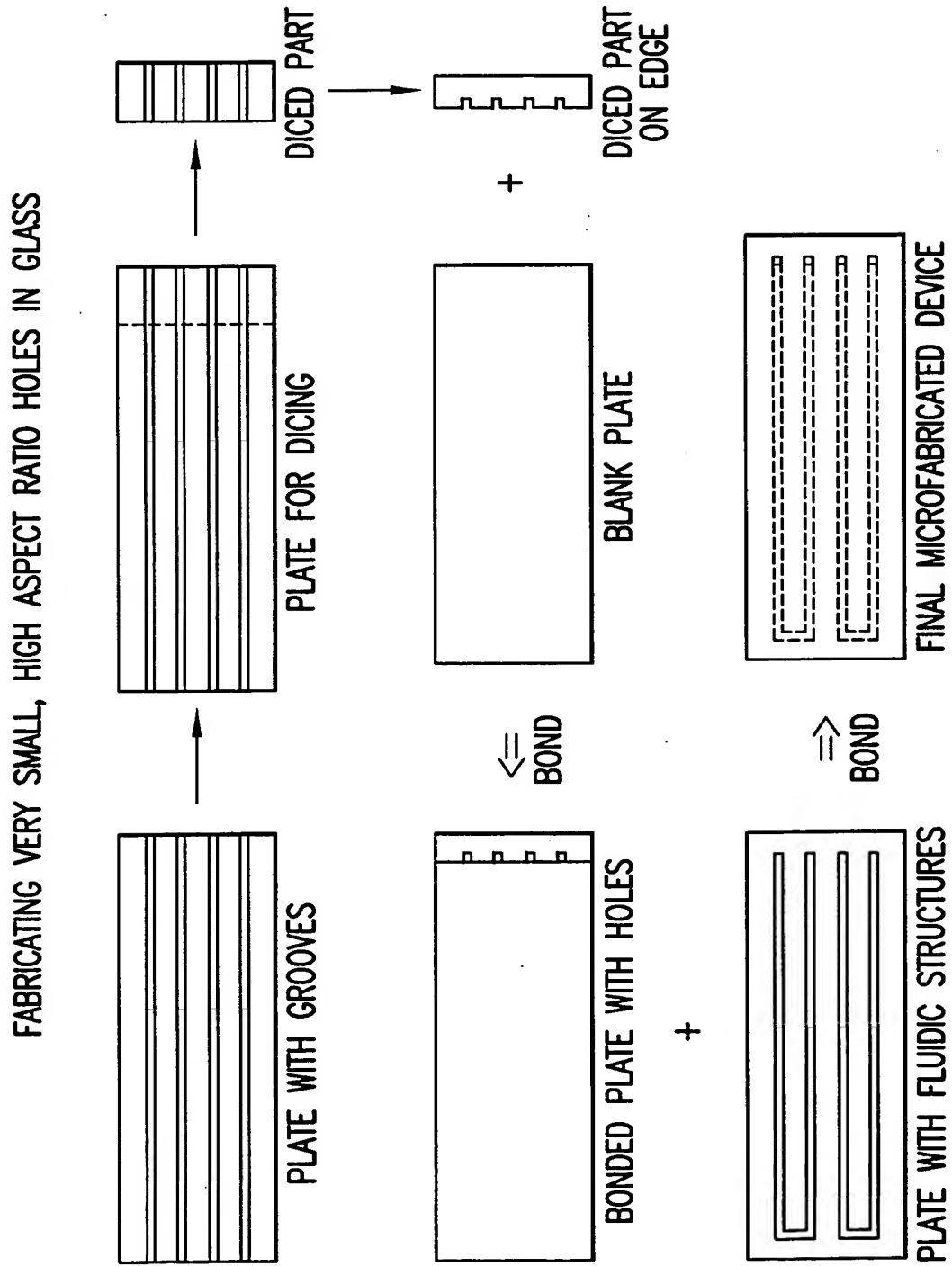


FIG.8